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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,986	08/18/2003	Douglas Chiang	030729.SU (15819-125)	3482

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EXAMINER

JULES, FRANTZ F

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/642,986	Applicant(s) CHIANG ET AL.	
	Examiner Frantz F. Jules	Art Unit 3617	<i>MW</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                       |                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____                                                |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Segawa et al (US 4,150,859).

#### **Claim 1**

Segawa et al disclose a combination of a crank (13) and an axle (11), wherein the crank (13) includes a through hole defined in a first end thereof and a threaded hole (not shown) is defined in a second end of the crank, a passage is defined through the crank and communicates with the through hole; the axle is adapted to be received in a bottom bracket (9) and one of two ends of the axle is engaged with the through hole of the crank, and a positioning assembly (35) is received in the passage and contacts the axle in the through hole.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al (US 4,150,859) in view of Gaylor (US 626,227).

Claim 2

Segawa et al teach all the limitations of claim 2 except for an assembly wherein the through hole of a crank includes ridges and grooves defined in an inner periphery thereof and the end of the axle that is engaged with the through hole has ridges and grooves defined in an outer periphery thereof. The general concept of providing a crank with through hole including ridges and grooves defined in an inner periphery thereof and the end of the axle that is engaged with the through hole having ridges and grooves defined in an outer periphery thereof is well known in the art as illustrated by Segawa et al which disclose the teaching of "an assembly wherein the through hole of a crank (A) includes ridges and grooves (E) defined in an inner periphery thereof and the end of the axle that is engaged with the through hole has ridges and grooves defined in an outer periphery thereof". It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Segawa et al to include the use of "an assembly wherein the through hole of a crank includes ridges and grooves defined in an inner periphery thereof and the end of the axle that is engaged with the through hole has ridges and grooves defined in an outer periphery thereof" in his advantageous combination of crank and axle assembly as taught by Gaylor in order to prevent slippage of the crank from the axle.

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al in view of Gaylor and Yamanaka (US 6,755,095).

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#### Claims 4-5

Segawa et al teach all the limitations of claims 4-5 except for an assembly comprising two sets of positioning assembly received in two passages of a crank arm having through hole which includes ridges and grooves defined in an inner periphery thereof and the end of the axle that is engaged with the through hole has ridges and grooves defined in an outer periphery thereof. The general concept of providing two sets of positioning assembly received in two passages of a crank arm is well known in the art as illustrated by Yamanaka which discloses the teaching of providing two sets of positioning assembly (343, 346) received in two passages of a crank arm (60B). Also, the general concept of providing a crank with through hole including ridges and grooves defined in an inner periphery thereof and the end of the axle that is engaged with the through hole having ridges and grooves defined in an outer periphery thereof is well known in the art as illustrated by Segawa et al which disclose the teaching of "an assembly wherein the through hole of a crank (A) includes ridges and grooves (E) defined in an inner periphery thereof and the end of the axle that is engaged with the through hole has ridges and grooves defined in an outer periphery thereof". It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Segawa et al to include the use of "an assembly wherein the through hole of a crank includes ridges and grooves defined in an inner periphery thereof and the end of the axle that is engaged with the through hole has ridges and grooves defined in an outer periphery thereof" in his advantageous combination of crank and axle assembly as taught by Gaylor in order to prevent slippage of the crank from the axle. It would have

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been obvious to one of ordinary skill in the art at the time of the invention to modify Segawa et al to include the use of two sets of positioning assembly received in two passages of a crank arm in his advantageous crank arm assembly as taught by Yamanaka in order to achieve an equal distribution of shear stress on the positioning pins thereby reducing the risk of failure in the pins.

***Allowable Subject Matter***

6. Claims 3, 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the references of record suggests a bolt threadedly extending through the two tubular members in the manner defined in the instant claim 3.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Shalom, Beam, Liu, Thun are cited to show related crank arm combination comprising a positioning assembly contacting the axle.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules  
Primary Examiner  
Art Unit 3617

FFJ

August 24, 2004

**FRANTZ F. JULES**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'Frantz F. Jules', written over the printed name and title.